Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-21-003
Summit Polymers, Inc.
160 Clarence Drive.
Mt. Sterling, KY 40353
5/6/2021
Elise Venard, Reviewer

SOURCE ID:	21-173-00024
AGENCY INTEREST:	3196
ACTIVITY:	APE20210001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3089, Plastics Products, NEC (except plastics pipe fittings, inflatable plastics life jackets, plastics furniture parts, and plastics sausage casings)

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Montgomery
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☒ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
Summit Polymers is a manufacturer of small plastic parts for the automotive industry. Products include air conditioning/heating vent dampers, cup holders, etc. The source operates injection molding machines that produce the various automotive parts. These parts are then trimmed, inspected, and assembled. The mold “tree” and some rejected pieces and parts are then ground and recycled back through the molding system. Some of the parts, depending upon the desired final product, are sent to a series of paint booths. Painted parts are cured in a small infrared oven attached to the paint booths.

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-21-003 Activities: APE20210001

Received: December 17, 2020 Application Complete Date(s): January 20, 2021

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐Yes ☒No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☒Yes ☐No

APE20190001. Application for permit modification submitted 1/16/2019 it include the addition of an Insignificant Activity. Off-Permit Change letter was issued 1/31/2019 to include the addition of a Burn-Off oven in the next permit issuance.

Description of Action:
On 12/17/2020 Summit Polymers, Inc. submitted an application for renewal of their Conditional Major permit for their facility in Mount Sterling, Kentucky.

F-21-003 Emission Summary		
Pollutant	2020 Actual (tpy)	Revised PTE F-21-003 (tpy) Uncontrolled
CO	0	0.72
NO_X	0	0.85
PT	0.12	14.37
PM_{10}	0.12	14.37
$PM_{2.5}$	0.10	8.72
SO_2	0	0.005
VOC	4.49	204.60
Lead	0	0.00
Greenhouse Gases (GHGs)		
Carbon Dioxide	0	1030.58
Methane	0	0.02
Nitrous Oxide	0	0.019
CO_2 Equivalent (CO_2e)	0	1036.71
Hazardous Air Pollutants (HAPs)		
Toluene	0.35	8.11
Triethyl Amine	0.04	0.97
Combined HAPs:	0.39	9.24

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit 03 and 04 Painting Operations				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source wide 90 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Individual HAP	Source wide 9.0 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
Combined HAPs	Source wide 22.5 tpy	To preclude 401 KAR 52:020	Material Balance & MSDS	Monthly emission calculations and a new rolling 12-month total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS with 50% Transfer Efficiency	Fabric Filters, 90% C.E.
PM	20 percent opacity	401 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations

Initial Construction: 2009 and 2015

Process Description:

Plastic parts, depending upon the desired final product, are sent to the paint booths. Painted parts are cured in a small infrared oven attached to the paint booths.

Applicable Regulation:

401 KAR 59:010, *New Process Operations*

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

Precluded Regulations:

401 KAR 52:020, *Title V Permits*

40 CFR Part 63 Subpart PPPP, *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products*

Comments:

40 CFR Part 63, Subpart HHHHHH, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, is not applicable because the spray coatings do not contain chromium, lead, manganese, nickel or cadmium, collectively referred to as target HAPs [40 CFR 63.11170(a)(3)].

EP03: Manual Paint Booth

- Maximum applicator rate per booth: 2.0 gal/hr
- Control equipment: Fabric filters with an estimated control efficiency of 90%

Emission Unit 03 and 04 Painting Operations

- Estimated transfer efficiency of 50% due to coating of small parts
- Emission factors determined from MSDS's
- Construction dates: 2009
- Potential to emit (PTE) calculations are based on 8760 operating hours per year

<u>EP04-1, -2: Robotic Paint Booths</u>

- Maximum applicator rate per booth: 4.0 gal/hr
- Control equipment: Fabric filters with an estimated control efficiency of 90%
- Stacks: #9 and #6
- Estimated transfer efficiency of 50% due to coating of small parts
- Emission factors determined from MSDS's
- Construction dates: 2009 and 2015
- Potential to emit (PTE) calculations are based on 8760 operating hours per year
- EP04-1 installed in: APE20090001 – Minor Revision
- EP04-2 installed in APE20150001 – Off-Permit Change

Control equipment, T.E., SDS & calculations, and Stack information from: APE20090001, APE20110002, APE20150001

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

N/A

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
90 tpy of VOC emissions	401 KAR 52:030	Source-wide
9.0 tpy of individual HAP emissions	401 KAR 52:030	Source-wide
22.5 tpy of combined HAP emissions	401 KAR 52:030	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, *New Process Operations*	EU 03, 04
401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*.	EU 03, 04

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 52:020, *Title V Permits*	Source-wide
40 CFR Part 63 Subpart PPPP, *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products*	EU 03, 04

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
N/A	

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*
The Division for Air Quality (Division) has performed SCREEN View on March 8, 2021 of potentially hazardous matter or toxic substances (Toluene, Trimethylamine) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination

N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-98-020	Initial Permit	F607/F741	7/21/1998	9/21/1998	Initial Permit Issuance	N/A
F-05-045	Renewal Permit	APE20040001	8/30/2003	9/15/2006	Renewal	N/A
F-05-045 R1	Permit Minor Revision	APE20070001	11/28/2007	12/18/2007	Remove 2 Injection Molders, 1 Paint Booth	N/A
F-05-045 R2	Permit Minor Revision	APE20080001	11/21/2008	12/18/2008	Addition of 2 Injection Molding Machines	N/A
F-05-045 R3	Permit Minor Revision	APE20090001	3/10/2009	3/30/2009	Addition of Paint Booth (EP04)	N/A
F-05-045 R4	Permit Minor Revision	APE20090002	9/16/2009	9/30/2009	Addition of Injection Molding Machine	N/A
F-11-018	Renewal	APE20110002	4/26/2011	8/5/2011	Renewal	N/A
F-11-018 R1	Revision	APE20150003	9/28/2015	10/16/2015	Minor Revision to add 8 grinders	N/A
F-16-013	Renewal	APE20160001	2/25/2016	6/1/2016	Renewal Permit	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds